

REMARKS

This is a full and timely response to the Office Action mailed October 18, 2005, submitted concurrently with a one month Extension of Time to extend the due date for response to February 21, 2006.

By this Amendment, claims 1 and 4-6 have been amended to more particularly define the present invention. Further, claims 2 and 3 have been cancelled without prejudice or disclaimer to their underlying subject matter, and claim 7 has been added to further protect a specific embodiment of the present invention. Support for the claim amendments and new claim can be readily found variously throughout the specification and the original claims, see, in particular, Examples I-3 (of Table I-1 on page 12), and I-1 to I-4 (in which "Seast 300" having an N₂SA of 82 m²/g is used) in the specification. Thus, claims 1 and 4-7 are currently pending in this application.

Applicant believes that all pending claims are in condition for allowance. Reexamination and reconsideration in light of the above amendments and the following remarks is respectfully requested.

Rejections under 35 U.S.C. §102/§103

Claims 1 and 2 are rejected under 35 U.S.C. §102(b) as allegedly being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as allegedly being obvious over Tetsuji (JP-08269241A).

To constitute anticipation of the claimed invention under U.S. practice, the prior art reference must literally or inherently teach each and every limitation of the claims. Further, to establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Here, in this case, Tetsuji fails to teach the peroxide-crosslinkable rubber composition defined in the amended claims.

As recited in amended claim 1, the present invention requires a peroxide-crosslinkable rubber composition comprising:

(A) more than 60 parts by weight but not more than 95 parts by weight of a rubber component comprising, as required components, (i) a natural rubber (NR) and/or a polyisoprene rubber (IR), and (ii) at least 30 parts by weight of a polybutadiene rubber (BR),

(B) at least 5 parts by weight but less than 40 parts by weight of a polar polymer, which comprises 100 parts by weight of an ethylenically

unsaturated nitrile-conjugated diene-based high saturation copolymer rubber having a conjugated diene unit content of 30 wt% or less and 20 to 120 parts by weight of a metal salt of an ethylenically unsaturated carboxylic acid (e.g., HNBR/ZnMA composite) blended therein, and

(C) carbon black having a nitrogen specific surface area (N_2SA) of $82\text{ m}^2/\text{g}$ or less in an amount so that the total weight of the components (B) and (C) becomes 20 to 70 parts by weight, based upon 100 parts by weight of the total amount of the components (A) and (B).

Such a peroxide-crosslinkable rubber composition is not at all disclosed or suggested in Tetsuji. Tetsuji discloses a rubber composition capable of directly bonding to a conventional rubber such as a diene based rubber, while maintaining an inherent high hardness by using (i) a nitrile-based copolymer rubber (e.g., hydrogenated NBR), (ii) a zinc salt of methacrylic acid and (iii) SBR and/or BR. This is completely different from the present invention (i.e., see amended claim 1) in at least the following aspects.

First, the presence of the natural rubber (NR) and/or the polyisoprene rubber (IR), which is one of the required components of the present invention is completely absent in Tetsuji. NR is only used, as a comparative example in which the hardness, E' (or dynamic modulus) and peel strength are all poor (see Comparative Example 4, in Table I of Tetsuji).

Secondly, the presence of a carbon black having an N_2SA of $82\text{ m}^2/\text{g}$ or less is neither disclosed nor taught in Tetsuji. Tetsuji only discloses in paragraph [0012] that a conventional filler can be used in the composition. In each of the Examples and Comparative Examples, the presence of carbon blacks is not at all mentioned. Hence, it is clear that the presence of the claimed carbon black having an N_2SA of $82\text{ m}^2/\text{g}$ or less is completely absent in Tetsuji.

It should also be emphasized that the particularly claimed elements (i.e. *rubber component, polar polymer and carbon black*) of the present invention allow for the superior anti-blooming property and the desired high hardness to be obtained. Such superior characteristics can be obtained without decreasing modulus. In support, as shown in the Examples and Comparative Examples of the present application, the "Seast 300" used in Examples I-1 to I-4, especially in Examples I-2 and I-4, has an N_2SA of $82\text{ m}^2/\text{g}$ and the "HTC#100" and "HTC#G" used in Examples II-1 to II-5 have an N_2SA of 35 and $25\text{ m}^2/\text{g}$ respectively, whereas the "Shoblack N339" used in Comparative Examples II-4 has an N_2SA of $90\text{ m}^2/\text{g}$.

Therefore, it is clear that the present invention provides superior technical advantages not expected based on the teachings and suggestions of Tetsuji. As the Examiner already knows,

presence of a property not possessed by the prior art is evidence of nonobviousness. *In re Papesch*, 315 F.2d 381, 137 USPQ 43 (CCPA 1963).

Thus, for these reasons, withdrawal of the present rejection is respectfully requested.

Claims 3-6 are rejected under 35 U.S.C. §103(a) as allegedly being obvious over Tetsuji (JP-08269241A) in view of Georget et al. (U.S. Patent No. 6,251,977) and Obrecht et al. (U.S. Patent No. 6,579,945).

As stated above, to establish a *prima facie* case of obviousness, the cited references must either alone or in combination teach or suggest the invention as a whole, including all the limitations of the claims. Here, in this case, the combination of Tetsuji, Georget et al. and Obrecht et al. do not teach all of the limitations of the claims.

As discussed above, Tetsuji fails to teach or suggest the peroxide-crosslinkable rubber composition defined in the amended claims. This deficiency is not cured by the teachings and suggestions of Georget et al. and Obrecht et al. As noted by the Examiner, Georget et al. and Obrecht et al. disclose the use of carbon blacks in a rubber composition. However, Georget et al. teaches the use of carbon black in a rubber composition **containing EPDM**. Thus, the presence of the specifically claimed carbon black in the rubber composition containing NR (and/or IR) and BR, together with, for example, HNBR/ZnMA, according to the Examples of the present application, is neither disclosed nor taught in Georget et al.

Likewise, although Obrecht et al. teaches the use of NR, BR, SBR or SIBR, and further NBR or CR, the use of NR (and/or IR) and BR with, for example, HNBR/ZnMA composite is completely absent in Obrecht et al.

Furthermore, like Tetsuji, Georget et al. and Obrecht et al. fails to teach or suggest the superior anti-blooming property of the claimed rubber composition. As stated above, the “Seast 300” used in Examples I-1 to I-4, especially in Examples I-2 and I-4, has an N₂SA of 82 m²/g and the “HTC[#]100” and “HTC[#]G used in Examples II-1 to II-5 have an N₂SA of 35 and 25 m²/g respectively, whereas the “Shoblack N339” used in Comparative Examples II-4 has an N₂SA of 90 m²/g. Thus, although Obrecht et al. discloses the use of the various carbon blacks having an N₂SA of 20-200 m²/g in a rubber composition, it fails to teach or suggest the presence of carbon blacks having a specific N₂SA range of 82 m²/g or less which allows for the superior anti-blooming property of the present invention to be obtained.

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Thus, for these reasons, withdrawal of the present rejection is respectfully requested.

CONCLUSION

For the foregoing reasons, all the claims now pending in the present application are believed to be clearly patentable over the outstanding rejections. Accordingly, favorable reconsideration of the claims in light of the above remarks is courteously solicited. If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone the undersigned attorney at the below-listed number.

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Respectfully submitted,

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